ABSTRACT

Expandable sealant and baffle compositions and methods of forming and using such compositions are provided wherein the compositions comprise a first thermoplastic resin, an epoxy resin, preferably a second thermoplastic resin different from the first thermoplastic resin, and optionally a compound selected from the group consisting of pigments, blowing agents, catalysts, curing agents, reinforcers, and mixtures thereof. The resulting compositions are formed as self-sustaining bodies which can be heat-expanded into a lightweight, high strength product for sealing hollow structural members of vehicles, substantially decreasing the noise which travels along the length of t`hose members as well as strengthening those members with minimal increases in their weights. In a preferred embodiment, the first thermoplastic resin is an SBS block co-polymer, the epoxy resin is a bisphenol A-based liquid epoxy resin, the second thermoplastic resin is a polystyrene, and the reinforcer is hydrated amorphous silica. The compositions can be formed into free-standing, self-sustaining parts or into U-shaped members supported on lattice-type nylon supports.